

BEFORE THE  
PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

APPLICATION OF KIAWAH ISLAND UTILITY, INCORPORATED TO FILE  
PROPOSED CHANGES IN RATES, CHARGES, CLASSIFICATIONS AND/OR  
REGULATIONS FOR WATER AND SEWER SERVICE

DOCKET NO. 2021-324-WS

APPENDICES AND EXHIBITS

ACCOMPANYING THE

DIRECT TESTIMONY  
OF  
AARON L. ROTHSCHILD

COST OF CAPITAL

ON BEHALF OF  
SOUTH CAROLINA DEPARTMENT OF CONSUMER AFFAIRS

February 24, 2022

## APPENDIX A: RESUME OF AARON L. ROTHSCILD

## SUMMARY

Financial professional providing U.S. public utility commissions financial tools and expert testimony to assist in rate setting for regulated utility companies (e.g., regulated electric distribution providers, natural gas pipelines). Relevant experience includes developing and applying methodologies that directly measure investors' equity return expectations based on stock option prices, applied mathematics research for utility industry as an affiliate of the New England Complex Systems Institute, and serving as Head of Business Analysis for a major U.S. telecom firm in Asia Pacific.

## EXPERIENCE

**Rothschild Financial Consulting, Ridgefield, CT**      **November 2001- present**  
Independent consulting firm specializing in utility sector  
*President*

- Provide financial expert testimony (e.g., rate of return and M&A) to regulators, policy makers, foundations, and consumer groups in utility rate case proceedings, including representing the California Public Advocates Office and the Wild Tree Foundation in the ongoing California water and energy cost of capital proceedings
- Developed cost of equity models that have been adopted by the Public Service Commission of South Carolina in 2020 (decision upheld by the South Carolina Supreme Court in September 2021) and the Connecticut Public Regulatory Authority in September 2021
- Developing market-based cost of equity methodology in ongoing regulated natural gas pipeline case before the Federal Energy Regulatory Commission (FERC), including proposing replacing equity analyst earnings per-share forecasts (IBES, Value Line) with options-implied growth expectations to determine authorized return on equity (ROE)
- Present at utility regulation conferences (NARUC/NASUCA and MARC) regarding rate of return, power purchase agreements, complex systems science, and subsidy auctions

**360 Networks, Hong Kong** **January 2001 - October 2001**  
Pioneer of the fiber optic telecommunications industry  
*Senior Manager*

- Business development and investment evaluation
- Negotiated landing rights and formed local partnerships in Korea, Japan, Singapore, and Hong Kong for \$1 billion undersea cable project
- Structured fiber optic bandwidth swapping agreement with Enron and Global Crossing
- Established relationships with Hong Kong based Investment Bankers to communicate Asia Pacific objectives and accomplishments to Wall Street

<b>Dantis, Chicago, IL</b>	<b>July 2000- December 2000</b>
Start-up managed data-hosting services provider	
<i><b>Director</b></i>	

- Built capital raise valuation models and negotiated with potential investors
- Team raised \$100M from venture capital firm through valuation negotiations and internal strategic analysis

**MFS, MCI-WorldCom, Chicago, Hong Kong, Tokyo      September 1996- July 2000**  
American Telecommunications Company

***Head of Business Analysis for Japan operations***

- Managed staff of 5 business development analysts
- Raised \$80M internally for Japanese national fiber network expansion plan by conducting an investment evaluation and presenting findings to CEO of international operations in London, UK
- Built financial model for local fiber optic investment evaluation that was used by business development offices in Oak Brook, IL and Sydney, Australia

## **EDUCATION**

---

**Vanderbilt University, Nashville, TN      1994-1996**  
***MBA, Finance***

- Completed business plan for Nextlink Communications in support of their national fiber optic network expansion, including identifying opportunities from passage of Telecom Act of 1996
- Developed analytical framework to evaluate predictability of rare events
- Provided financial and accounting analysis to Chicago's consumer advocate, the Citizens Utility Board (CUB) as a summer intern

**Clark University, Worcester, MA      1990 - 1994**  
***BA, Mathematics***

## APPENDIX B: TESTIFYING EXPERIENCE OF AARON L. ROTHCHILD

### Filed Rate of Return Testimonies:

#### California

- California American Water Company, Application 21-05-001, Rate of Return, January 2022
- California Water Service Company, Application 21-05-002, Rate of Return, January 2022
- Golden State Water Company, Application 21-05-003, Rate of Return, January 2022
- San Jose Water Company, Application 21-05-004, Rate of Return, January 2022
- Southern California Edison, Application 21-08-013, Rate of Return/Cost of Capital Mechanism, January 2022
- San Diego Gas & Electric Company, Application 21-08-014, Rate of Return/Cost of Capital Mechanism, January 2022
- Pacific Gas and Electric Company, Application 21-08-015, Rate of Return/Cost of Capital Mechanism, January 2022
- Pacific Gas and Electric Company, Application 21-01-004, Securitization, February 2021
- Pacific Gas and Electric Company, Application 20-04-023, Securitization, October 2020
- Southern California Edison, Application 20-07-008, Securitization, September 2020
- San Diego Gas & Electric Company, Application 19-04-017, Rate of Return, August 2019
- Southern California Gas Company, Application 19-04-016, Rate of Return, August 2019
- Pacific Gas and Electric Company, Application 19-04-015, Rate of Return, August 2019
- Southern California Edison, Application 19-04-014, Rate of Return, August 2019
- Liberty Utilities, Application A.18-05-006, Rate of Return, August 2018
- San Gabriel Water Company, Application 18-05-005, Rate of Return, August 2018
- Suburban Water Company, Application 18-05-004, Rate of Return, August 2018
- Great Oaks Water Company, Application 18-05-001, Rate of Return, August 2018
- California Water Service Company, Application 17-04-006, Rate of Return, August 2017
- California American Water Company, Application 17-04-003, Rate of Return, August 2017
- Golden State Water Company, Application 17-04-002, Rate of Return, August 2017
- San Jose Water Company, Application 17-04-001, Rate of Return, August 2017

#### Colorado

- Public Service Company of Colorado, Docket No. 11AL-947E, Rate of Return, March 2012

#### Connecticut

- Eversource and United Illuminating, Docket No. 17-12-03RE11, Rate of Return / Interim Rate Reduction, April 2021
- United Water Connecticut, Docket No. 07-05-44, Rate of Return, November 2008
- Valley Water Systems, Docket No. 06-10-07, Rate of Return, May 2007

#### Delaware

- Tidewater Utilities, Inc., PSC Docket No. 11-397, Rate of Return, April 2012

#### Florida

- Florida Power & Light (FPL), Docket No. 070001-EI, October 2007
- Florida Power Corp., Docket No. 060001 Fuel Clause, September 2007

**New Jersey**

- Aqua New Jersey, Inc., BPU Docket No. WR11120859, Rate of Return, April 2012

**Maryland**

- Delmarva Power & Light, Case No. 9317, Rate of Return, June 2013
- Columbia Gas of Maryland, Case No. 9316, Rate of Return, May 2013
- Potomac Electric Power Company, Case No. 9286, Rate of Return, March 2012
- Delmarva Power & Light, Case No. 9285, Rate of Return, March 2012

**North Dakota**

- Montana-Dakota Utilities Co., Case No. PU-20-379, Rate of Return, January 2021
- Otter Tail Power Company, Case No. PU-17-398, Rate of Return, May 2018
- Montana-Dakota Utilities Co., Case No. PU-15-90, Rate of Return, August 2015
- Northern States Power, Case No. PU-400-04-578, Rate of Return, March 2005

**Pennsylvania**

- UGI Utilities, Inc. – Electric Division, Docket No. R-2021-3023618, Rate of Return, May 2021
- Pennsylvania American Water Company, Docket No. P-2021-3022426, Rate of Return, February 2021
- Audubon Water Company, Docket No. R-2020-3020919, Rate of Return, November 2020
- Pennsylvania American Water Company, Docket No. R-2020-3019369 and R-2020-3019371, Rate of Return, September 2020
- Twin Lakes Utilities, Inc., Docket No. R-2019-3010958, Rate of Return, October 2019
- City of Lancaster Sewer Fund, Docket No. R-2019-3010955, Rate of Return, October 2019
- Community Utilities of Pennsylvania Inc. Wastewater Division, Docket No. R-2019-3008948, Rate of Return, July 2019
- Community Utilities of Pennsylvania Inc. Water Division, Docket No. R-2019-3008947, Rate of Return, July 2019
- Newtown Artesian Water Company, Docket No. R-20019-3006904, Rate of Return, May 2019
- Hidden Valley Utility Services, L.P. – Wastewater Division, Docket No. R-2018-3001307, Rate of Return, September 2018
- Hidden Valley Utility Services, L.P. – Water Division, Docket No. R-2018-3001306, Rate of Return, September 2018
- The York Water Company, Docket No. R-2018-3000019, Rate of Return, August 2018
- SUEZ PA Pennsylvania, Inc., Docket No. R-2018-000834, Rate of Return, July 2018
- UGI Utilities, Inc. – Electric Division, Docket No. R-2017-2640058, Rate of Return, April 2018
- Wellsboro Electric Company, Docket No. R-2016-2531551, Rate of Return, December 2016
- Citizens' Electric Company of Lewisburg, PA, Docket No. R-2016-2531550, Rate of Return, December 2016
- Columbia Gas of Pennsylvania, Inc., Docket No. R-2016-2529660, Rate of Return, June 2016
- Columbia Gas of Pennsylvania, Inc., Docket No. R-2015-2468056, Rate of Return, June 2015
- Pike County Light & Power Company, Docket No. R-2013-2397353 (gas), Rate of Return, April 2014
- Pike County Light & Power Company, Docket No. R-2013-2397237 (electric), Rate of Return, April 2014
- Columbia Water Company, Docket No. R-2013-2360798, Rate of Return, August 2013
- Peoples TWP LLC, Docket No. R-2013-2355886, Rate of Return, July 2013
- City of Dubois – Bureau of Water, Docket No. R-2013-2350509, Rate of Return, July 2013

- City of Lancaster – Sewer Fund, Docket No. R-2012-2310366, Rate of Return, December 2012
- Wellsboro Electric Company, Docket No. R-2010-2172665, Rate of Return, September 2010
- Citizens’ Electric Company of Lewisburg, PA, Docket No. R-2010-2172662, Rate of Return, September 2010
- T.W. Phillips Gas and Oil Company, Docket No. R-2010-2167797, Rate of Return, August 2010
- York Water Company, Docket No. R-2010-2157140, Rate of Return, August 2010
- Joint Application of The Peoples Natural Gas Company, Dominion Resources, Inc. and Peoples Hope Gas Company LLC, Docket No. A-2008-2063737, Financial Analysis, December 2008
- York Water Company, Docket No. R-2008-2023067, Rate of Return, August 2008

### **South Carolina**

- Palmetto Wastewater Reclamation, Inc., Docket No. 2021-153-S, Rate of Return, September 2021
- Dominion Energy South Carolina, Inc., Docket No. 2020-125-E, Rate of Return, November 2020
- Palmetto Utilities, Inc., Docket No. 2019-281-S, Rate of Return, May 2020
- Palmetto Utilities, Inc., Docket No. 2019-281-S, Accounting, May 2020
- Blue Granite Water Company, Docket No. 2019-290-WS, Rate of Return, January 2020

### **Vermont**

- Central Vermont Public Service Corp., Docket No. 7321, Rate of Return, September 2007

### **Wisconsin**

- American Transmission Company, LLC, ITC, Midwest, LLC, Case No. 19-CV-3418, financial and regulatory analysis regarding requested temporary injunction to halt the construction in Wisconsin of the proposed Cardinal-Hickory Creek transmission line, October 2021

## **APPENDIX C: EXHIBITS**

## Exhibit ALR-1

**OVERALL COST OF CAPITAL**  
**Kiawah Island Utility**

	<u>Ratios</u>		<u>Cost Rate</u>		<u>Weighted Cost Rate</u>
					[D]
Long-Term Debt	50.14%	[A]	3.39%	[B]	1.70%
Short-Term Debt	0.00%		0.00%		0.00%
Preferred Equity	0.00%		0.00%		0.00%
Common Equity	49.86%	[A]	7.47%	[C]	3.72%
	<u>100.00%</u>				<u>5.42%</u>
<u>RECOMMENDED RANGES</u>					
			<u>Low</u>		<u>High</u>
Proxy Group Cost of Equity Range			6.78%		8.16%
Proxy Group Cost of Equity				7.47%	
Based on RFC Capital Structure Recommendation					
Capital Structure Risk Adjustment		[E]		0.00%	
Adjusted Recommended Cost of Equity Range			6.78%		8.16%
Company Specific Cost of Equity Recommendation				7.47%	
Cost of Capital Range			5.08%		5.77%
Based on KIU's Requested Capital Structure Recommendation					
Capital Structure Risk Adjustment		[E]		-0.13%	
Adjusted Recommended Cost of Equity Range			6.64%		8.03%
Company Specific Cost of Equity Recommendation				7.34%	
Cost of Capital Range			5.67%		6.41%
Comprehensive Cost of Capital Range					
Cost of Debt Range			3.39%		3.39%
Common Equity Ratio Range			49.86%		49.86%
Comprehensive Cost of Capital Range			5.08%		5.77%

## Sources:

[A] Recommendation based on Proxy Group capital structures

[B] KIU's confidential response to DCA 1-15e. Information provided with consent of KIU.

[C] Company Specific Cost of Equity Recommendation based on RFC Capital Structure Recommendation

[D] Ratios times Cost Rate

[E] Not applicable because of recommended Capital Structure within Proxy Group range.

Based on estimate of 0.04% change in Cost of Equity for each 1% difference in Common Equity Ratio compared to the Proxy Group (Exhibit ALR-1 vs. Exhibit ALR-5, page 4).

## Exhibit ALR-2

## COST OF EQUITY SUMMARY

## RFC Water Proxy Group (7 Companies)

		<u>Low</u>	<u>High</u>
<b>DCF</b>			
Constant Growth	[A]	8.15%	8.27%
Non-Constant Growth	[B]	5.75%	5.80%
<b>CAPM</b>			
<b>3-Mo. Weighted Average (Nov. 2021 to Jan. 2022)</b>			
3-Month Treasury Bill Risk-Free Rate	[C]	7.29%	7.55%
30-Year Treasury Bond Risk-Free Rate	[C]	7.81%	8.02%
<b>Spot (Jan. 31, 2022)</b>			
3-Month Treasury Bill Risk-Free Rate	[D]	6.39%	7.47%
30-Year Treasury Bond Risk-Free Rate	[D]	7.17%	8.05%
<b>Average</b>		<b>7.36%</b>	<b>7.87%</b>
<b>Outer Quartile Range</b>		<b>6.78%</b>	<b>8.16%</b>
<b>Proxy Group Cost of Equity</b>		<b>7.47%</b>	

## Sources:

[A] Exhibit ALR-3, page 1

[B] Exhibit ALR-3, page 2 and Exhibit ALR-3, page 3

[C] Exhibit ALR-4, page 1

[D] Exhibit ALR-4, page 5

**CONSTANT GROWTH DISCOUNTED CASH FLOW (DCF) - INDICATED COST OF EQUITY**  
**RFC Water Proxy Group (7 Companies)**

		Based on Average Market Price For Year Ending 1/31/2022	Based On Market Price As Of 1/31/2022
1 Dividend Yield On Market Price	[A]	1.70%	1.66%
2 Retention Rate:			
a) Market-to-Book Ratio	[A]	3.65	3.63
b) Dividend Yield on Book	[B]	6.19%	6.02%
c) Expected Return on Equity	[C]	10.80%	10.80%
d) Retention Rate	[D]	42.71%	44.23%
3 Reinvestment Growth	[E]	4.61%	4.78%
4 New Financing Growth	[F]	1.79%	1.78%
5 Total Estimate of Investor Anticipated Growth	[G]	6.40%	6.56%
6 Increment to Dividend Yield for Growth to Next Year	[H]	0.05%	0.05%
<b>7 Indicated Cost of Equity</b>	<b>[I]</b>	<b>8.15%</b>	<b>8.27%</b>

## Sources:

[A] Exhibit ALR-5, page 1

[B] Line 1 x Line 2a

[C] Some of the considerations for determining Future Expected Return on Equity:

	Median	Mean	From
Value Line Expectation	11.00%	11.14%	Exhibit ALR-5, page 2
Return on Equity to Achieve <u>Zacks</u> Growth	8.79%	8.79%	Exhibit ALR-5, page 3
Average Historical Growth	11.08%	10.15%	
Earned Return on Equity in 2021	11.53%	10.57%	Exhibit ALR-5, page 2
Earned Return on Equity in 2020	11.36%	10.39%	Exhibit ALR-5, page 2
Earned Return on Equity in 2019	10.35%	9.49%	Exhibit ALR-5, page 2

[D] 1 - Line 2b / Line 2c

[E] Line 2c x Line 2d

[F]  $S \times V = (\text{Ext. Fin Rate}) \times (\text{Line 2a} - 1)$ 

Ext. Fin. Rate =

0.68%

From  
Exhibit ALR-3, page 4

S = rate of continuous new stock financing

V = fraction of funds raised by sale of stock that increases the book value of existing shareholders' common equity

[G] Line 3 + Line 4

[H] Line 1 x one-half of Line 5

[I] Line 1 + Line 5 + Line 6

**NON-CONSTANT GROWTH DISCOUNTED CASH FLOW (DCF) - INDICATED COST OF EQUITY**  
**(BASED ON VALUE LINE FORECASTS AND CLOSING STOCK PRICE)**  
**RFC Water Proxy Group**

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
		Forecasted Dividends per Share					Growth	Book Value		Closing Stock Price		Cash Flow From Buying and Selling Stock (At Closing Price)					
		2022	2023	2023	2024	2025	2022-25	1/31/22	1/31/25	1/31/2022	1/31/2025	2022		2023	2024	2025	IRR / DCF
		[A]	[A]	[B]	[B]	[A]	[B]	[C]	[C]	[D]	[E]	[F]	[F]	[F]	[F]	[F]	[G]
AMER.STATESWATER	AWR	\$1.52	NA	\$1.67	\$1.83	\$2.00	9.58%	\$17.65	\$20.48	\$92.23	\$106.99	(\$90.71)		\$1.67	\$1.83	\$106.99	6.91%
AMERICANWATER	AWK	\$2.58	NA	\$2.74	\$2.92	\$3.10	6.31%	\$38.31	\$47.65	\$160.18	\$199.23	(\$157.60)		\$2.74	\$2.92	\$199.23	9.28%
ESSENTIALUTIL.	WTRG	\$1.12	NA	\$1.21	\$1.30	\$1.40	7.72%	\$20.56	\$22.77	\$48.74	\$53.99	(\$47.62)		\$1.21	\$1.30	\$53.99	6.01%
CALIFORNIAWATER	CWT	\$0.00	NA	NA	NA	\$1.15	NA	\$21.38	\$22.36	\$61.83	\$64.68	(\$61.83)		NA	NA	\$64.68	4.61%
MIDDLESEXWATER	MSEX	\$1.18	NA	\$1.23	\$1.29	\$1.35	4.59%	\$20.87	\$21.91	\$101.24	\$106.27	(\$100.06)		\$1.23	\$1.29	\$106.27	2.86%
YORKWATER	YORW	\$0.79	NA	\$0.85	\$0.92	\$1.00	8.17%	\$11.58	\$12.55	\$45.42	\$49.24	(\$44.63)		\$0.85	\$0.92	\$49.24	4.64%
SJWGROUP	SJW	\$1.44	NA	\$1.53	\$1.62	\$1.72	6.10%	\$35.13	\$39.16	\$68.49	\$76.34	(\$67.05)		\$1.53	\$1.62	\$76.34	5.96%
Maximum		\$2.58	\$0.00	\$2.74	\$2.92	\$3.10	9.58%	\$38.31	\$47.65	\$160.18	\$199.23	\$0.00	(\$44.63)	\$2.74	\$2.92	\$199.23	9.28%
Minimum		\$0.00	\$0.00	\$0.85	\$0.92	\$1.00	4.59%	\$11.58	\$12.55	\$45.42	\$49.24	\$0.00	(\$157.60)	\$0.85	\$0.92	\$49.24	2.86%
Median		\$1.18	#NUM!	\$1.38	\$1.46	\$1.40	7.02%	\$20.87	\$22.36	\$68.49	\$76.34	#NUM!	(\$67.05)	\$1.38	\$1.46	\$76.34	5.96%
Average		\$1.23	#DIV/0!	\$1.54	\$1.65	\$1.67	7.08%	\$23.64	\$26.70	\$82.59	\$93.82	#DIV/0!	(\$81.36)	\$1.54	\$1.65	\$93.82	5.75%

## Sources:

- [A] Value Line: Most current data available at time of schedule preparation. 2025 data is VL forecast for 2024-26.
- [B] Straight line interpolation based on Value Line data, assuming constant dividend growth for 2022-25.
- [C] Straight line interpolation based on Value Line data, assuming constant book value growth for 2022-25.
- [D] EOD Data: Market Data as of January 31, 2022.
- [E] Stock Price projected assuming constant Market to Book Ratio (Exhibit ALR-5, page 1) and using VL projected Book Value.
- [F] Cash Flow from purchasing stock on February 1, 2022, receiving dividends through 2025, and selling on January 31, 2025.  
 Negative number in 2022 reflects cash outflow required to purchase stock.  
 Cash flow sources are 1) dividends and 2) proceeds of stock sale.  
 4 of 4 dividends assumed received in 2022 and 0 of 4 in 2025 based on purchase and sale date.
- [G] Total return on equity to investor who purchased, held, and sold stock as described above,  
 assuming Value Line projections of Dividends and Book Value are correct and  
 assuming Stock Price grows at same rate as Book Value.
- DCF result is an Internal Rate of Return computation made using the "IRR" function built into Microsoft Excel  
 based on projected cash flows from 2022 to 2025.

**NON-CONSTANT GROWTH DISCOUNTED CASH FLOW (DCF) - INDICATED COST OF EQUITY**  
**(BASED ON VALUE LINE FORECASTS AND LTM AVERAGE STOCK PRICE)**  
**RFC Water Proxy Group**

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]				
		Forecasted Dividends per Share					Growth	LTM Avg. Book Value		LTM Avg. Stock Price		Cash Flow From Buying and Selling Stock (At LTM Average Price)									
		2022	2023	2023	2024	2025	2022-25	2022	2025	1/31/22	1/31/25	2022						2023	2024	2025	IRR / DCF
		[A]	[A]	[B]	[B]	[A]	[B]	[C]	[C]	[D]	[E]	[F]	[F]	[F]	[F]	[F]	[F]	[G]			
AMER.STATESWATER	AWR	\$1.52	NA	\$1.67	\$1.83	\$2.00	9.58%	\$17.52	\$20.33	\$86.92	\$100.83		(\$85.40)	\$1.67	\$1.83	\$100.83	7.02%				
AMERICANWATER	AWK	\$2.58	NA	\$2.74	\$2.92	\$3.10	6.31%	\$37.05	\$46.08	\$160.33	\$199.42		(\$157.75)	\$2.74	\$2.92	\$199.42	9.28%				
ESSENTIALUTIL.	WTRG	\$1.12	NA	\$1.21	\$1.30	\$1.40	7.72%	\$19.88	\$22.02	\$47.52	\$52.64		(\$46.40)	\$1.21	\$1.30	\$52.64	6.07%				
CALIFORNIAWATER	CWT	\$0.00	NA	NA	NA	\$1.15	NA	\$19.96	\$20.88	\$61.49	\$64.32		(\$61.49)	NA	NA	\$64.32	4.61%				
MIDDLESEXWATER	MSEX	\$1.18	NA	\$1.23	\$1.29	\$1.35	4.59%	\$20.38	\$21.40	\$94.26	\$98.94		(\$93.08)	\$1.23	\$1.29	\$98.94	2.95%				
YORKWATER	YORW	\$0.79	NA	\$0.85	\$0.92	\$1.00	8.17%	\$11.30	\$12.25	\$47.24	\$51.20		(\$46.45)	\$0.85	\$0.92	\$51.20	4.57%				
SJWGROU	SJW	\$1.44	NA	\$1.53	\$1.62	\$1.72	6.10%	\$33.74	\$37.61	\$65.85	\$73.40		(\$64.41)	\$1.53	\$1.62	\$73.40	6.06%				
Maximum		\$2.58	\$0.00	\$2.74	\$2.92	\$3.10	9.58%	\$37.05	\$46.08	\$160.33	\$199.42	\$0.00	(\$46.40)	\$2.74	\$2.92	\$199.42	9.28%				
Minimum		\$0.00	\$0.00	\$0.85	\$0.92	\$1.00	4.59%	\$11.30	\$12.25	\$47.24	\$51.20	\$0.00	(\$157.75)	\$0.85	\$0.92	\$51.20	2.95%				
Median		\$1.18	#NUM!	\$1.38	\$1.46	\$1.40	7.02%	\$19.96	\$21.40	\$65.85	\$73.40	#NUM!	(\$64.41)	\$1.38	\$1.46	\$73.40	6.06%				
Average		\$1.23	#DIV/0!	\$1.54	\$1.65	\$1.67	7.08%	\$22.83	\$25.79	\$80.51	\$91.54	#DIV/0!	(\$79.28)	\$1.54	\$1.65	\$91.54	5.80%				

## Sources:

[A] Value Line: Most current data available at time of schedule preparation. 2025 data is VL forecast for 2024-26.

[B] Straight line interpolation based on Value Line data, assuming constant dividend growth for 2022-25.

[C] Straight line interpolation based on Value Line data, assuming constant book value growth for 2022-25.

[D] EOD Data: Market Data as of January 31, 2022.

[E] Stock Price projected assuming constant Market to Book Ratio (Exhibit ALR-5, page 1) and using VL projected Book Value.

[F] Cash Flow from purchasing stock on February 1, 2022, receiving dividends through 2025, and selling on January 31, 2025.

Negative number in 2022 reflects cash outflow required to purchase stock.

Cash flow sources are 1) dividends and 2) proceeds of stock sale.

4 of 4 dividends assumed received in 2022 and 0 of 4 in 2025 based on purchase and sale date.

[G] Total return on equity to investor who purchased, held, and sold stock as described above,  
 assuming Value Line projections of Dividends and Book Value are correct and  
 assuming Stock Price grows at same rate as Book Value.

DCF result is an Internal Rate of Return computation made using the "IRR" function built into Microsoft Excel  
 based on projected cash flows from 2022 to 2025.

**COMMON SHARES OUTSTANDING AND EXTERNAL FINANCING RATE**  
**RFC Water Proxy Group**

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Common Stock Outstanding (Millions of Shares)								Annual Growth Rate		
		2016	2017	2018	2019	2020	2021	2022	2025	2016-20	2020-25	2016-25
		[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[B]	[B]	[B]
AMER.STATESWATER	AWR	36.6	36.7	36.8	36.9	36.9	37.3	37.5	37.5	0.22%	0.33%	0.28%
AMERICANWATER	AWK	178.1	178.4	180.7	180.8	181.3	181.6	182.0	190.0	0.45%	0.94%	0.72%
ESSENTIALUTIL.	WTRG	177.4	177.7	220.8	220.8	245.4	253.0	254.5	270.0	8.45%	1.93%	4.78%
CALIFORNIAWATER	CWT	48.0	48.0	48.1	48.5	50.3	52.8	53.0	54.0	1.21%	1.42%	1.32%
MIDDLESEXWATER	MSEX	16.3	16.4	16.4	17.4	17.5	17.5	17.8	18.0	1.75%	0.60%	1.11%
YORKWATER	YORW	12.9	12.9	12.9	13.0	13.1	13.0	13.0	12.8	0.41%	-0.40%	-0.04%
SJWGROU	SJW	20.5	20.5	28.4	28.5	28.6	30.0	30.0	30.0	8.70%	0.99%	4.34%
Maximum		178.1	178.4	220.8	220.8	245.4	253.0	254.5	270.0	8.70%	1.93%	4.78%
Minimum		12.9	12.9	12.9	13.0	13.1	13.0	13.0	12.8	0.22%	-0.40%	-0.04%
Median		36.6	36.7	36.8	36.9	36.9	37.3	37.5	37.5	1.21%	0.94%	1.11%
<b>Average</b>		69.9	70.1	77.7	78.0	81.9	83.6	84.0	87.5	3.02%	0.83%	1.79%
<b>Sustainable Growth [C]</b>										<b>0.68%</b>		

## Sources:

- [A] Value Line: Most current data available at time of schedule preparation.  
[B] Annualized Growth Rate calculation.  
[C] Estimated Sustainable Growth in Common Stock based on analysis of historical and projected growth rates.

Exhibit ALR-4, page 1

**CAPITAL ASSET PRICING MODEL (CAPM) - INDICATED COST OF EQUITY**

WEIGHTED - All Inputs Weighted From November 2021 to January 2022

RFC Water Proxy Group

	<b>3-Month Treasury Bill</b>		<b>30-Year Treasury Bond</b>	
	Hybrid Beta	Forward Beta	Hybrid Beta	Forward Beta
Risk-Free Rate	0.13%	0.13%	1.96%	1.96%
Beta	0.74	0.71	0.74	0.71
Risk Premium	10.03%	10.03%	8.20%	8.20%
<b>CAPM (Weighted)</b>	<b>7.55%</b>	<b>7.29%</b>	<b>8.02%</b>	<b>7.81%</b>

**CAPITAL ASSET PRICING MODEL (CAPM) - RISK-FREE RATE****Spot (Jan. 31, 2022)**

3-Month Treasury Bill	0.22%
30-Year Treasury Bond	2.11%

**3-Mo. Weighted Average (Nov. 2021 to Jan. 2022)**

3-Month Treasury Bill	0.13%
30-Year Treasury Bond	1.96%

Source: [www.treasury.gov](http://www.treasury.gov)

**CAPITAL ASSET PRICING MODEL (CAPM) - BETAS**  
 (BASED ON HISTORICAL AND OPTION-IMPLIED RETURNS)  
 RFC Water Proxy Group

	10/26/2021	11/02/2021	11/09/2021	11/16/2021	11/23/2021	11/30/2021	12/07/2021	12/14/2021	12/21/2021	12/28/2021	01/04/2022	01/11/2022	01/18/2022	01/25/2022	Average	Time Avg.
<b>Betas</b>																
Forward (6 months)	0.74	0.66	0.80	0.79	0.71	0.67	0.62	0.69	0.74	0.78	0.72	0.82	0.75	0.59	0.719	0.714
Historical (6 months)	0.74	0.70	0.69	0.66	0.65	0.71	0.68	0.70	0.68	0.65	0.67	0.81	0.84	0.78	0.711	0.730
Historical (2 yrs)	0.84	0.84	0.84	0.83	0.84	0.84	0.84	0.84	0.83	0.83	0.83	0.84	0.84	0.84	0.835	0.835
Historical (5 yrs)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.751	0.750
<b>Weighting</b>																
Forward (6 months)	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%		
Historical (6 months)	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%		
Historical (2 yrs)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%		
Historical (5 yrs)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%		
<b>Hybrid Beta (Forward &amp; Historical)</b>	<b>0.76</b>	<b>0.71</b>	<b>0.77</b>	<b>0.76</b>	<b>0.72</b>	<b>0.71</b>	<b>0.68</b>	<b>0.72</b>	<b>0.74</b>	<b>0.75</b>	<b>0.72</b>	<b>0.81</b>	<b>0.78</b>	<b>0.69</b>	0.738	0.740
<b>Slope</b>	15%															
<b>Points</b>	0.00	1.00	1.15	1.32	1.52	1.75	2.01	2.31	2.66	3.06	3.52	4.05	4.65	5.35		
<b>Time Weight</b>	0.0%	2.9%	3.3%	3.8%	4.4%	5.1%	5.9%	6.7%	7.7%	8.9%	10.2%	11.8%	13.5%	15.6%		

CAPM Betas	Spot (Jan 25, 2022)	Weighted (Nov 2021 - Jan 2022)
Forward	0.59	0.71
Hybrid	0.69	0.74

Note: Historical betas are calculated on Tuesdays, following Value Line's methodology. Forward (option-implied) betas are also calculated on Tuesdays for the sake of compatibility.

**CAPITAL ASSET PRICING MODEL (CAPM) - MARKET RISK PREMIUM**

WEIGHTED - All Inputs Weighted From November 2021 to January 2022

Cumulative Probability	50.00%	
S&P 500 Option-Implied Growth Rate	8.86%	
S&P 500 Dividend Yield	1.29%	
S&P 500 Market Return	10.16%	
	<b><u>3-Month Treasury Bill</u></b>	<b><u>30-Year Treasury Bond</u></b>
Risk-Free Rate	0.13%	1.96%
Option-Implied Market Risk Premium (Weighted)	10.03%	8.20%

**CAPITAL ASSET PRICING MODEL (CAPM) - INDICATED COST OF EQUITY**

SPOT - All Inputs Based on Last Available Data as of January 31, 2022

RFC Water Proxy Group

	<b>3-Month Treasury Bill</b>		<b>30-Year Treasury Bond</b>	
	Hybrid Beta	Forward Beta	Hybrid Beta	Forward Beta
Risk-Free Rate	0.22%	0.22%	2.11%	2.11%
Beta	0.69	0.59	0.69	0.59
Risk Premium	10.51%	10.51%	8.62%	8.62%
<b>CAPM (Spot)</b>	<b>7.47%</b>	<b>6.39%</b>	<b>8.05%</b>	<b>7.17%</b>

**CAPITAL ASSET PRICING MODEL (CAPM) - MARKET RISK PREMIUM**

SPOT - All Inputs Based on Last Available Data as of January 31, 2022

Cumulative Probability	50.00%	
S&P 500 Option-Implied Growth Rate	9.44%	
S&P 500 Dividend Yield	1.29%	
S&P 500 Market Return	10.73%	
	<b><u>3-Month Treasury Bill</u></b>	<b><u>30-Year Treasury Bond</u></b>
Risk-Free Rate	0.22%	2.11%
Option-Implied Market Risk Premium (Spot)	10.51%	8.62%

**MARKET TO BOOK RATIO AND DIVIDEND YIELD**  
**RFC Water Proxy Group**

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
		<b>Book Value per Share</b>							<b>Market Price</b>			<b>Mkt. to Book Ratio</b>		<b>Dividend Rate</b>		<b>Dividend Yield</b>	
		<b>Actual</b>			<b>Estimated</b>												
		<b>12/31/18</b>	<b>12/31/19</b>	<b>12/31/20</b>	<b>12/31/21</b>	<b>1/31/21</b>	<b>1/31/22</b>	<b>12/31/22</b>	<b>1/31/22</b>	<b>LTM High</b>	<b>LTM Low</b>	<b>1/31/22</b>	<b>LTM Avg.</b>	<b>MRQ</b>	<b>Annual</b>	<b>1/31/22</b>	<b>LTM Avg.</b>
		[A]	[A]	[A]	[A]	[B]	[B]	[A]	[C]	[C]	[C]	[D]	[D]	[A]	[E]	[F]	[F]
AMER.STATESWATER	AWR	\$15.19	\$16.33	\$17.39	\$17.45	\$17.39	\$17.65	\$20.00	\$92.23	\$103.77	\$70.07	5.22	4.96	\$0.365	\$1.460	1.58%	1.68%
AMERICANWATER	AWK	\$32.42	\$33.83	\$35.58	\$38.15	\$35.79	\$38.31	\$40.20	\$160.18	\$189.65	\$131.01	4.18	4.33	\$0.603	\$2.410	1.50%	1.50%
ESSENTIALUTIL.	WTRG	\$17.58	\$17.58	\$19.09	\$20.45	\$19.20	\$20.56	\$21.80	\$48.74	\$53.93	\$41.11	2.37	2.39	\$0.268	\$1.073	2.20%	2.26%
CALIFORNIAWATER	CWT	\$15.19	\$16.07	\$18.30	\$21.35	\$18.54	\$21.38	\$21.70	\$61.83	\$71.96	\$51.02	2.89	3.08	\$0.230	\$0.920	1.49%	1.50%
MIDDLESEXWATER	MSEX	\$15.17	\$18.57	\$19.81	\$20.85	\$19.89	\$20.87	\$21.15	\$101.24	\$121.43	\$67.09	4.85	4.62	\$0.290	\$1.160	1.15%	1.23%
YORKWATER	YORW	\$9.75	\$10.31	\$10.97	\$11.55	\$11.02	\$11.58	\$11.90	\$45.42	\$53.77	\$40.70	3.92	4.18	\$0.195	\$0.780	1.72%	1.65%
SJWGROU	SJW	\$31.31	\$31.27	\$32.12	\$35.00	\$32.35	\$35.13	\$36.65	\$68.49	\$73.69	\$58.01	1.95	1.95	\$0.340	\$1.360	1.99%	2.07%
Maximum		\$32.42	\$33.83	\$35.58	\$38.15	\$35.79	\$38.31	\$40.20	\$160.18	\$189.65	\$131.01	5.22	4.96	\$0.603	\$2.410	2.20%	2.26%
Minimum		\$9.75	\$10.31	\$10.97	\$11.55	\$11.02	\$11.58	\$11.90	\$45.42	\$53.77	\$40.70	1.95	1.95	\$0.195	\$0.780	1.15%	1.23%
Median		\$15.19	\$17.58	\$19.09	\$20.85	\$19.20	\$20.87	\$21.70	\$68.49	\$73.69	\$58.01	3.92	4.18	\$0.290	\$1.160	1.58%	1.65%
Average		\$19.52	\$20.57	\$21.89	\$23.54	\$22.03	\$23.64	\$24.77	\$82.59	\$95.46	\$65.57	3.63	3.65	\$0.327	\$1.309	1.66%	1.70%

## Sources:

- [A] Value Line: Most current data available at time of schedule preparation.  
[B] Straight-line interpolation of Actual and Estimated VL year-end values.  
[C] EOD Data: Market Data as of January 31, 2022.  
[D] Market Price divided by Book Value per Share.  
[E] Most Recent Quarterly Dividend multiplied by 4.  
[F] Dividend Rate divided by Market Price.

**EARNINGS PER SHARE AND RETURN ON EQUITY**  
RFC Water Proxy Group

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
		<b>Earnings per Share</b>				<b>Return on Equity</b>			
		<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>VL Future Exp.</b>
		[A]	[A]	[A]	[A]	[B]	[B]	[B]	[A]
AMER.STATESWATER	AWR	\$1.72	\$2.28	\$2.33	\$2.45	14.47%	13.82%	14.06%	13.00%
AMERICANWATER	AWK	\$3.15	\$3.43	\$3.91	\$4.25	10.35%	11.27%	11.53%	11.00%
ESSENTIALUTIL.	WTRG	\$1.04	\$1.04	\$1.12	\$1.65	5.92%	6.11%	8.35%	8.50%
CALIFORNIAWATER	CWT	\$1.36	\$1.31	\$1.97	\$2.30	8.38%	11.46%	11.60%	11.00%
MIDDLESEXWATER	MSEX	\$1.96	\$2.01	\$2.18	\$2.20	11.91%	11.36%	10.82%	12.50%
YORKWATER	YORW	\$1.04	\$1.11	\$1.27	\$1.35	11.07%	11.94%	11.99%	13.00%
SJWGROUPE	SJW	\$1.82	\$1.35	\$2.14	\$1.90	4.31%	6.75%	5.66%	9.00%
Maximum		\$3.15	\$3.43	\$3.91	\$4.25	14.47%	13.82%	14.06%	13.00%
Minimum		\$1.04	\$1.04	\$1.12	\$1.35	4.31%	6.11%	5.66%	8.50%
Median		\$1.72	\$1.35	\$2.14	\$2.20	10.35%	11.36%	11.53%	11.00%
<b>Average</b>		\$1.73	\$1.79	\$2.13	\$2.30	9.49%	10.39%	10.57%	11.14%

Sources:

[A] Value Line: Most current data available at time of schedule preparation.

[B] Earnings per Share divided by average Book Value. Book Values shown on Exhibit ALR-5, page 1.

RETURN ON EQUITY IMPLIED BY ZACKS GROWTH RATES  
RFC Water Proxy Group

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
		Book Value	EPS	Annual Dividend	Analyst 5 Year	Analyst-Implied Book Value before SV		Analyst-Implied Book Value Incl. SV		Implied EPS	Analyst-Implied
		12/31/21	2021	Rate	Growth Rate	12/31/2025	12/31/2026	12/31/2025	12/31/2026	2026	ROE
		[A]	[A]	[A]	[B]	[C]	[C]	[C]	[C]	[C]	[C]
AMER.STATESWATER	AWR	\$17.45	\$2.45	\$1.460	NA	NA	NA	NA	NA	NA	NA
AMERICANWATER	AWK	\$38.15	\$4.25	\$2.410	8.10%	\$47.13	\$49.84	\$59.58	\$66.82	\$6.27	9.93%
ESSENTIALUTIL.	WTRG	\$20.45	\$1.65	\$1.073	6.10%	\$23.13	\$23.91	\$27.82	\$30.11	\$2.22	7.66%
CALIFORNIAWATER	CWT	\$21.35	\$2.30	\$0.920	NA	NA	NA	NA	NA	NA	NA
MIDDLESEXWATER	MSEX	\$20.85	\$2.20	\$1.160	NA	NA	NA	NA	NA	NA	NA
YORKWATER	YORW	\$11.55	\$1.35	\$0.780	NA	NA	NA	NA	NA	NA	NA
SJWGROUP	SJW	\$35.00	\$1.90	\$1.360	NA	NA	NA	NA	NA	NA	NA
Maximum		\$38.15	\$4.25	\$2.410	8.10%	\$47.13	\$49.84	\$59.58	\$66.82	\$6.27	9.93%
Minimum		\$11.55	\$1.35	\$0.780	6.10%	\$23.13	\$23.91	\$27.82	\$30.11	\$2.22	7.66%
Median		\$20.85	\$2.20	\$1.160	7.10%	\$35.13	\$36.88	\$43.70	\$48.46	\$4.25	8.79%
Average		\$23.54	\$2.30	\$1.309	7.10%	\$35.13	\$36.88	\$43.70	\$48.46	\$4.25	8.79%

Sources:  
[A] Value Line: Most current data available at time of schedule preparation.  
[B] Zacks: Data as of February 08, 2022.  
[C] Analyst-Implied Book Value and Return on Equity is obtained by escalating both Dividends and Earnings per Share by the stated Analyst Growth Rate and adding Earnings and subtracting Dividends for each projected year.  
"SV" = S X V, where S = rate of continuous new stock financing and V = rate of return on common equity investment.

Exhibit ALR-5, page 4

**CAPITAL STRUCTURE WITH SHORT TERM DEBT**  
**RFC Water Proxy Group**

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
		% Common Equity					(\$ millions)					Percentage				
		2017	2018	2019	2020	2021	Total Debt	LT Debt	ST Debt	Pfd Stock	Equity	Total Capital	LT Debt	ST Debt	Pfd Stock	Equity Ratio
		[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[B]	[B]	[B]	[B]
AMER.STATESWATER	AWR	62.0%	59.5%	55.6%	52.8%	54.5%	\$ 440.5	\$ 412.1	\$ 28.4	\$ -	\$ 493.6	\$ 934.1	44.1%	3.0%	0.0%	52.8%
AMERICANWATER	AWK	45.3%	43.6%	41.4%	40.9%	40.0%	\$ 11,084.0	\$ 10,352.0	\$ 732.0	\$ 3.0	\$ 6,903.3	\$ 17,990.3	57.5%	4.1%	0.0%	38.4%
ESSENTIALUTIL.	WTRG	49.4%	56.9%	56.9%	46.0%	47.0%	\$ 5,708.7	\$ 5,598.7	\$ 110.0	\$ -	\$ 4,964.9	\$ 10,673.6	52.5%	1.0%	0.0%	46.5%
CALIFORNIAWATER	CWT	57.3%	50.7%	49.8%	54.1%	51.5%	\$ 1,184.9	\$ 1,059.7	\$ 125.2	\$ -	\$ 1,125.2	\$ 2,310.1	45.9%	5.4%	0.0%	48.7%
MIDDLESEXWATER	MSEX	61.8%	61.6%	58.2%	55.7%	57.5%	\$ 273.3	\$ 266.5	\$ 6.8	\$ 2.4	\$ 363.8	\$ 639.5	41.7%	1.1%	0.4%	56.9%
YORKWATER	YORW	57.0%	57.5%	58.7%	53.7%	55.5%	\$ 132.2	\$ 132.2	\$ -	\$ -	\$ 164.9	\$ 297.1	44.5%	0.0%	0.0%	55.5%
SJWGROUP	SJW	51.8%	67.3%	40.9%	41.6%	43.0%	\$ 1,446.3	\$ 1,420.0	\$ 26.3	\$ -	\$ 1,071.2	\$ 2,517.5	56.4%	1.0%	0.0%	42.6%
Maximum		62.0%	67.3%	58.7%	55.7%	57.5%	\$ 11,084.0	\$ 10,352.0	\$ 732.0	\$ 3.0	\$ 6,903.3	\$ 17,990.3	57.5%	5.4%	0.4%	56.9%
Minimum		45.3%	43.6%	40.9%	40.9%	40.0%	\$ 132.2	\$ 132.2	\$ -	\$ -	\$ 164.9	\$ 297.1	41.7%	0.0%	0.0%	38.4%
Median		57.0%	57.5%	55.6%	52.8%	51.5%	\$ 1,184.9	\$ 1,059.7	\$ 28.4	\$ -	\$ 1,071.2	\$ 2,310.1	45.9%	1.1%	0.0%	48.7%
<b>Average</b>		54.9%	56.7%	51.6%	49.3%	49.9%	\$ 2,895.7	\$ 2,748.7	\$ 147.0	\$ 0.8	\$ 2,155.3	\$ 5,051.8	48.9%	2.2%	0.1%	<b>48.8%</b>

Sources:

[A] Value Line: Most current data available at time of schedule preparation.

[B] Percentage calculated on Total Capital including Short Term Debt.

**CAPITAL STRUCTURE WITHOUT SHORT TERM DEBT**  
**RFC Water Proxy Group**

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
		% Common Equity					(\$ millions)					Percentage				
		2017	2018	2019	2020	2021	Total Debt	LT Debt	ST Debt	Pfd Stock	Equity	Total Capital	LT Debt	ST Debt	Pfd Stock	Equity Ratio
		[A]	[A]	[A]	[A]	[A]	[A]	[A]	[B]	[A]	[A]	[A]	[B]	[B]	[B]	[B]
AMER.STATESWATER	AWR	62.0%	59.5%	55.6%	52.8%	54.5%	\$ 440.5	\$ 412.1		\$ -	\$ 493.6	\$ 905.7	45.5%	0.0%	0.0%	54.5%
AMERICANWATER	AWK	45.3%	43.6%	41.4%	40.9%	40.0%	\$ 11,084.0	\$ 10,352.0		\$ 3.0	\$ 6,903.3	\$ 17,258.3	60.0%	0.0%	0.0%	40.0%
ESSENTIALUTIL.	WTRG	49.4%	56.9%	56.9%	46.0%	47.0%	\$ 5,708.7	\$ 5,598.7		\$ -	\$ 4,964.9	\$ 10,563.6	53.0%	0.0%	0.0%	47.0%
CALIFORNIAWATER	CWT	57.3%	50.7%	49.8%	54.1%	51.5%	\$ 1,184.9	\$ 1,059.7		\$ -	\$ 1,125.2	\$ 2,184.9	48.5%	0.0%	0.0%	51.5%
MIDDLESEXWATER	MSEX	61.8%	61.6%	58.2%	55.7%	57.5%	\$ 273.3	\$ 266.5		\$ 2.4	\$ 363.8	\$ 632.7	42.1%	0.0%	0.4%	57.5%
YORKWATER	YORW	57.0%	57.5%	58.7%	53.7%	55.5%	\$ 132.2	\$ 132.2		\$ -	\$ 164.9	\$ 297.1	44.5%	0.0%	0.0%	55.5%
SJWGROUP	SJW	51.8%	67.3%	40.9%	41.6%	43.0%	\$ 1,446.3	\$ 1,420.0		\$ -	\$ 1,071.2	\$ 2,491.2	57.0%	0.0%	0.0%	43.0%
Maximum		62.0%	67.3%	58.7%	55.7%	57.5%	\$ 11,084.0	\$ 10,352.0		\$ 3.0	\$ 6,903.3	\$ 17,258.3	60.0%	0.0%	0.4%	57.5%
Minimum		45.3%	43.6%	40.9%	40.9%	40.0%	\$ 132.2	\$ 132.2		\$ -	\$ 164.9	\$ 297.1	42.1%	0.0%	0.0%	40.0%
Median		57.0%	57.5%	55.6%	52.8%	51.5%	\$ 1,184.9	\$ 1,059.7		\$ -	\$ 1,071.2	\$ 2,184.9	48.5%	0.0%	0.0%	51.5%
<b>Average</b>		54.9%	56.7%	51.6%	49.3%	49.9%	\$ 2,895.7	\$ 2,748.7		\$ 0.8	\$ 2,155.3	\$ 4,904.8	50.1%	0.0%	0.1%	<b>49.9%</b>

## Sources:

[A] Value Line: Most current data available at time of schedule preparation.

[B] Percentage calculated on Total Capital excluding Short Term Debt.

**ORS 2-29** Compile complete per books (current) and proforma Original Cost Rate Bases for Combined Operations, Water Operations, and Sewer Operations that detail all components (i.e. plant in service, CIAC, ADIT, EDIT, cash working capital, etc.).

**KIU Response:**

Please see Attachment a for requested rate base calculations. In preparing the response, the Company also updated rate base for additional proforma depreciation expense of \$500,604 through 12/31/21.

Prepared By:

Philip Williams

---

# ORS AIR 2-29 Att a - Rate Base

Exhibit ALR-6

**Kiawah Island Utility**  
**For the year ended December 31, 2020**

**Docket 2021-324-WS**  
**Revised Rate Base - Combined**

Line No.		PER BOOKS	PROFORMA ADJUSTMENTS	PROFORMA PRESENT	PROPOSED INCREASE	AFTER PROPOSED INCREASE
1	Plant in Service	55,097,995	4,200,881	59,298,876	-	59,298,876
2	Accumulated Depreciation	(22,922,989)	(1,524,591)	(24,447,580)	-	(24,447,580)
3	Contributions in Aid of Construction (CIAC) Net	(8,670,917)	385,259	(8,285,658)	-	(8,285,658)
4	Net Plant	23,504,089	3,061,549	26,565,638	-	26,565,638
5	Accumulated Deferred Income Taxes	(992,271)	119,705	(872,566)	-	(872,566)
6	Excess Deferred Income Taxes (EDIT)	(672,744)	-	(672,744)	-	(672,744)
7	Materials and Supplies	416,741	-	416,741	-	416,741
8	Prepayments	95,590	-	95,590	-	95,590
9	Cash Working Capital	861,095	(69,914)	791,181	-	791,181
10	Total Rate Base	23,212,500	3,111,341	26,323,840	-	26,323,840

Proforma Adjustments - through December 2021

		Original Calculation	Change
Amortization/Depreciation on Existing Assets in 2021	(1,299,312)	(943,173)	(356,139)
Amortization on Existing CIAC	385,259	385,259	0
Allocated corporate Depreciation in 2021	(97,305)	0	(97,305)
Assets Added to Rate Base in 2021	3,893,256	3,893,256	
Depreciation on Assets Added in 2021	(94,950)	(47,790)	(47,160)
Assets Retired in 2021	(109,391)	(109,391)	
Assets Retired Accum Dep	96,030	96,030	
KIU PC Gross Rate Base Allocation	417,016	417,016	
KIU PC Rate Base Accum Dep Allocation	(129,054)	(129,054)	
Proforma Net Plant adjustments	3,061,549	3,562,153	
Accumulated Deferred Income Taxes	119,705	119,705	
Cash Working Capital	(69,914)	(69,914)	
Proforma Adjustments	3,111,341	3,611,944	(500,604)

Deferred Income Tax Allocation

	Net Book Value	Ratio	ADIT - per books	ADIT - Proforma	EDIT	EDIT Revenue Adj
Water assets	18,591,223	0.791	(784,865)	(690,181)	(532,126)	27,817
Sewer assets	4,912,866	0.209	(207,406)	(182,385)	(140,618)	7,351
	23,504,089	1	(992,271)	(872,566)	(672,744)	35,168

**ORS 2-30** Please explain KIU's decision to file for rates to be set according to the operating margin method instead of the rate base method.

**KIU Response:**

KIU has historically filed, and the Commission has historically approved, KIU's rates being set using the operating margin method. Below is an excerpt from the Introduction section of the Order in KIU's last rate filing:

In considering the Application of KIU, the Commission must ascertain and fix just and reasonable rates, standards, classifications, regulations, practices, and measurements of service to be furnished. The Commission must consider the Company's total revenue requirements and review the operating revenues and operating expenses of KIU to establish adequate and reasonable levels of revenues and expenses. The Commission will consider a fair operating margin for KIU based on the record, and any increase must be just and reasonable and free of undue discrimination.

In the same Order, Finding of Fact #3 stated, "The operating margin methodology is appropriate for determining the lawfulness of the Company's rates and in fixing just and reasonable rates." The circumstances of KIU's current filing are not dissimilar from KIU's last filing, and KIU requested rates be set using operating margin in the instant proceeding based on this precedent.

Prepared By:

Brian Bahr

**ORS 4-19** Follow up to IR 2-32; provide the detailed calculation of the implied return based on the information provided in the Company's application and using the Company's requested operating margin of 14.25%.

**KIU Response:**

Please see Attachment a.

Prepared By:

Brian Bahr

---

ORS AIR 4-19 Att a - Implied Return

Exhibit ALR-6

Calculation of Implied Return

Calc	Amount	Sub-Amount	Description	Reference
a	\$56,377,822		Total Utility Plant	Sched A
a	-\$1,279,828		CWIP	Sched A
a	-\$21,232,498		Accumulated Dep	Sched A
a	-\$1,690,488		Accumulated Amort	Sched A
a	-\$8,670,918		CIAC, net	Sched A
a	\$3,691,324		2021 water additions	Exhibit B, Sched D
a	-\$109,391		2021 water retirements	Exhibit B, Sched D
b		\$7,641	Service Meter 12/31/20 Acc Dep	ORS AIR 1-3 (Application Asset Adjustment - Meters for Retirement)
b		\$85,049	Service Meter 12/31/20 Acc Dep	ORS AIR 1-3 (Application Asset Adjustment - Meters for Retirement)
b		\$243	Service Meter 2021 Dep	ORS AIR 1-3 (Application Asset Adjustment - Meters for Retirement)
b		\$3,098	Service Meter 2021 Dep	ORS AIR 1-3 (Application Asset Adjustment - Meters for Retirement)
c=sum(b)	\$96,031		2021 water retirement - A/D	calculated
a	\$201,932		2021 sewer additions	Exhibit B, Sched D
d		-\$737,972	Total Depreciation (water)	Exhibit B, Sched D
d		-\$20,962	Total Amortization (water)	Exhibit B, Sched D
d		-\$350,296	Total Depreciation (sewer)	Exhibit B, Sched D
e=sum(d)	-\$1,109,230		2021 depreciation/amortization	calculated
a	\$287,962		Net Allocated Corp Rate base	ORS AIR 1-3 (Parent Company Rate Base Allocation to KIU)
a	-\$872,566		ADIT	Sched A
a	-\$672,744		Total Deferred Credits (EDIT)	Sched A
a	\$416,741		Materials & Supplies	Sched A
a	\$95,590		Prepayments	Sched A
f		\$6,329,446	Operating Expense	Sched B
g=f/8	\$791,181		Cash Working Capital	calculated
a	\$2,921		Depreciation Adjustment	ORS AIR 3-12
h=sum(a)+c+e+g	\$26,323,841		Total Rate Base	calculated
i	\$2,072,960		Operating Income	Sched B
i	\$28,970		growth factor	Sched B
i	\$35,168		Excess ADIT	Sched B
j=sum(i)	\$2,137,098		Operating Income	calculated
k=j/h	8.12%		Return on Rate Base	calculated

**ORS 6-17** In MS Excel format with formulas intact, please provide:

- a. A list of current debt issuances held by the Company, including date of issuance, maturity date, original principal amount, amount outstanding, interest rate, and an itemization of all associated costs, fees, and charges for each debt issuance; and
- b. A calculation for the Company's Weighted Average Cost of Debt for the Test Year.

**KIU Response:**

- a. There is an intercompany loan agreement in the amount of \$19,669,858.41 by and among KIU and SouthWest Water Company effective June 1, 2018. The loan matures May 17, 2048 and carries an interest rate of 4.57%. There were no debt issuance costs.
- b. The weighted average cost of debt for the test year is 4.57%.

Prepared By:

Kent Cauley

**ORS 6-21** Referencing the “Interest” Adjustment #24 in Schedule B of Exhibit B of the Application:

- a. Provide in MS Excel format with all formulas intact the calculations and source data used to determine the interest expense/interest sync calculation.
- b. Provide any relevant supporting documentation responsive to IR 6-21(a).

**KIU Response:**

- a. Please see supplemental response to ORS AIR 1 for working interest synchronization calculation provided 12.17.21.
- b. Please see Attachment a and schedules to the Application.

Prepared By:

Lauren Hutson

---

# ORS 6-21 b Att a - KIU Intercompany Note

## INTERCOMPANY LOAN AGREEMENT NO. 2060-01

This **INTERCOMPANY LOAN AGREEMENT NO. 2060-01** (the "Agreement") is made effective as of June 1, 2018 (the "Effective Date"), by and among:

Southwest Water Company, a Delaware corporation, (" <u>SWWC</u> "), and  Kiawah Island Utility, Inc., a South Carolina corporation (" <u>Company</u> ").
--

### WHEREAS,

- A. Company and SWWC shall collectively be referred to herein as the "Loan Parties", and each of them shall individually be referred to as a "Loan Party";
- B. Company, from time to time may need or desire to use funds for operating expenditures, capital expenditures or other general corporate purposes; and
- C. SWWC is willing to lend funds to Company subject to the provisions hereof.

### NOW THEREFORE, THE LOAN PARTIES AGREE AS FOLLOWS:

**Section 1. General Terms.** This Agreement and Advances hereunder shall be subject to the terms set forth in the attached Annex 1, and such Annex 1 shall be incorporated herein in its entirety. Capitalized terms used herein, unless otherwise defined, shall have the meaning assigned to such term in Annex 1.

**Section 2. Material Terms.** In this Agreement, unless the context otherwise requires, the following expressions (including the plural thereof) shall have the following meaning:

Borrower:	means Company (it being understood that for purposes of Annex 1, references to multiple Borrowers shall only constitute a reference to Company);
Lender:	means SWWC (it being understood that for purposes of Annex 1, references to multiple Lenders shall only constitute a reference to SWWC);
Initial Loan Balance:	means \$19,669,858.41;
Interest Rate:	means 4.57%;
Initial Maturity Date:	means May 17, 2048;
Interest Accrual Period:	means monthly;
Interest Calculation Method:	means actual/actual;
Interest Payment Period:	means monthly.

**Section 3. Notices:** Notices delivered in connection with this Agreement shall be in writing (unless otherwise agreed) and sent by U.S. mail or facsimile (or other electronic transmission) to each Loan Party at the following addresses:

<p>if directed to SWWC:</p> <p>SouthWest Water Company  12535 Reed Road  Sugar Land, TX 77478  Attention: Chief Executive Officer  Telephone: 281-207-5885  Facsimile: 281-207-5861  Email: kmichael@swwc.com  ckroll@swwc.com  dmedina@swwc.com</p>	<p>if directed to Company:</p> <p>Kiawah Island Utility, Inc.  c/o SouthWest Water Company  12535 Reed Road  Sugar Land, TX 77478  Attention: Chief Executive Officer  Telephone: 281-207-5885  Facsimile: 281-207-5861  Email: rmaclea@swwc.com  ckroll@swwc.com  dmedina@swwc.com</p>
--	---

The parties hereto have caused this Agreement to be duly executed as of October 1, 2018.

**SOUTHWEST WATER COMPANY**

**KIAWAH ISLAND UTILITY, INC.**

By:   
Name: K. B. Michael  
Title: Chief Financial Officer

By:   
Name: Robert MacLean  
Title: Chief Executive Officer

## ANNEX 1 TO INTERCOMPANY LOAN AGREEMENT NO. 2060-01

General Terms

**Section 1. Additional Definitions:** The following terms (including the plural thereof) shall have the following meaning:

Advance:	each advance made under the Agreement
Business Day:	a day (other than a Saturday or Sunday) on which banks are generally open for business in New York
Loan Balance:	the aggregate amount of Advances that remain outstanding at any time including any accrued interest
Monthly Average Loan Balance:	For any Interest Payment Period, the simple average of the Loan Balance outstanding as of the close of business as of the last calendar day of the preceding Interest Payment Period and the Loan Balance outstanding as of the close of business on the last day of the succeeding Interest Payment Period.
Person:	any natural person, corporation, limited liability company, trust, joint venture, association, company, partnership, Governmental Authority or other entity
Subsidiary:	of a Person, means a corporation, partnership, joint venture, limited liability company or other business entity of which a majority of the shares of securities or other interests having ordinary voting power for the election of directors or other governing body (other than securities or interests having such power only by reason of the happening of a contingency) are at the time beneficially owned, directly or indirectly, through one or more intermediaries, or both, by such Person
SWWC:	Southwest Water Company, a Delaware corporation

**Section 2. Loans:** Subject to the terms and conditions of the Agreement and its consent, each Lender may make loans to a Borrower from time to time.

**Section 3. Procedure for Advances:** To request an Advance, a Borrower shall notify a Lender of the aggregate amount of such requested Advance by telephone, fax or transmit by electronic communication before it requires the proposed Advance; provided that any Advance funded by a Lender shall be deemed to be evidence that an Advance was properly requested hereunder. The Loan Parties agree that book-entry records shall be conclusive evidence of the funding of an Advance hereunder.

**Section 4. Interest:**

(a) Interest shall accrue on the Monthly Average Loan Balance during each Interest Accrual Period, from the date hereof to but excluding the Termination Date at the Interest Rate, which shall be calculated pursuant to the Interest Calculation Method and shall be payable in arrears within 5 Business Days after the last calendar day of each Interest Payment Period (any such date, an "Interest Payment Date").

(b) The Borrower may choose not to pay interest on an Interest Payment Date. If the Borrower so chooses, the amount of interest due on that Interest Payment Date shall be treated as a further Advance and will accrue interest from that Interest Payment Date.

**Section 5. Repayment:** Borrower shall repay the Loan Balance in full on the Termination Date. Borrower is entitled to prepay Advances, in whole or in part, at any time, without penalty. Unless otherwise agreed between the Loan Parties, each Advance shall be repaid and accrued interest thereon shall be paid in the same currency as the currency of such Advance. The Loan Parties agree that book-entry records may be used as conclusive evidence of the repayment of Advances hereunder.

**Section 6. Representations and Warranties:** Each Loan Party represents and warrants to the other Loan Party (in each case, in its capacity as a Borrower and/or Lender, as applicable) at the date hereof that it has the power necessary to enter into the Agreement, to borrow thereunder and to comply with all the provisions thereof, and that all acts, terms and conditions required to be done have been performed and that the execution and performance of the Agreement has been duly authorized by all necessary actions of each Loan Party.

**Section 7. Events of Default:** The Lender has the right, but not the obligation, to declare the Loan Balance, immediately due and payable upon the occurrence of any of the following events (each an "Event of Default"):

- (a) the Borrower defaults in the due observance or performance of any other obligation or agreement contained in the Agreement for 30 consecutive days; or
- (b) any involuntary petition of bankruptcy is filed against the Borrower or any affirmative act of insolvency by the Borrower occurs or the Borrower files any petition or action under any bankruptcy, insolvency or moratorium law for the financial relief of or relating to the dissolution of the Borrower; or
- (c) the Borrower shall cease or threaten to cease to carry on the whole or a major part of the business conducted by it; or
- (d) the Borrower shall (i) voluntarily commence any proceeding or file any petition seeking liquidation, reorganization or other relief under any federal, state or foreign bankruptcy, insolvency, receivership or similar law now or hereafter in effect, (ii) consent to the institution of, or fail to contest in a timely and appropriate manner, any proceeding or petition described in clause (b) above, (iii) apply for or consent to the appointment of a receiver, trustee, custodian, sequestrator, conservator or similar official for the Borrower or for a substantial part of its assets, (iv) file an answer admitting the material allegations of a petition filed against it in any such proceeding or (v) make a general assignment for the benefit of creditors.

**Section 8. Automatic Renewal.** The term of the Agreement shall commence on the Effective Date and shall continue, unless otherwise earlier terminated as provided in Section 9, until the Initial Maturity Date (the "Initial Term"); provided that, the Agreement shall automatically renew (on the same terms and conditions contained herein) for one year successive periods (each such successive period and the Initial Term, a "Term"), unless (x) either Loan Party shall deliver written notice to such other Loan Party electing not to renew the Agreement not less than 30 days prior to the expiration of the then current Term or (y) an Event of Default has occurred and is continuing at the end of the then current Term.

**Section 9. Termination:** On the earlier of

- (a) the date that either Loan Party ceases to be SWWC or a Subsidiary of SWWC,
- (b) the date that is 30 days following the receipt of a written notice of intent to terminate by either Loan Party from such other Loan Party and
- (c) upon timely notice delivered pursuant to Section 8, the last day of the then current Term

(such date, the "Termination Date"), the Loan Amount due and payable to each Loan Party from such other Loan Party must be paid in full or otherwise satisfied (which satisfaction may, at the sole discretion of each Lender with respect to the Loan Amount owed to it, include an assignment to and/or assumption by SWWC or a Subsidiary of SWWC). Subject to any permitted assignment or assumption described above, upon the Termination Date and payment of outstanding obligations in connection therewith in full, the Loan Parties shall cease to have any rights or owe any obligations under the Agreement.

**Section 10. Successors and Assigns:** The Agreement shall be binding upon and inure to the benefit of the Loan Parties and their respective successors and permitted assigns. Neither Loan Party may assign any of its rights, interests, or obligations under the Agreement without the prior written approval of the other Loan Party.

**Section 11. Severability:** Should any part, term or provision of the Agreement be declared invalid, void or unenforceable to any extent, all remaining parts, terms and provisions hereof shall remain in full force and effect and shall in no way be invalidated, impaired or effected thereby.

**Section 12. Amendment; Waiver:** The Agreement can only be validly amended or supplemented by an instrument in writing duly executed by each Loan Parties. Any waiver of a provision of the Agreement must be in writing signed by the Loan Party waiving its rights.

**Section 13. Headings:** The section and paragraph headings contained in the Agreement are for reference purposes only and shall not in any way affect the meaning or interpretation of any provision of the Agreement.

**Section 14. Governing Law:** The Agreement shall be governed by and construed in accordance with the law of New York.

**Section 15. Counterparts:** The Agreement may be executed in any number of counterparts each of which when executed and delivered shall be an original, but all the counterparts together shall constitute one and the same instrument.

**Section 16. Entire Agreement:** The Agreement (including as supplemented by this Annex 1), contains all agreements between the Loan Parties with respect to the Agreement and Advances hereunder and supersedes all earlier written and/or oral agreements, which the Loan Parties may have made in respect thereof.

**ORS 9-2** Please provide the Company's estimated cost of equity capital.

**KIU Response:**

The implied cost of equity capital in this filing is 11.24%.

Prepared By:

Brian Bahr